

VEGETATED SOUND BARRIER

MOTORWAY A4 EISENACH-DRESDEN

GERMANY



PROJECT REPORT





TITLE: Vegetated Sound Barrier, Motorway A4 Eisenach – Dresden, Germany

EMPLOYER: Project „Deutsche Einheit“ / SEIB Ingenieur-Consult GmbH, Würzburg

DURATION: Autumn 1998 – Summer 1999

PROJECT: As a result of the German reunion all motorways and major roads from East to West had to be extended due to the increasing amount of traffic. Part of this measure was the extension of the A4 motorway from Eisenach to Dresden to six lanes and the erection of sound barriers.

THE PROBLEM: On the outskirts of the town of Leina a new development was to be established and in order to shield the houses from the motorway to the North of the town a noise barrier had to be included in the concept in order to protect and blend in with the environment.

THE SOLUTION: **GREENFIELDS®** Erosion Control Blankets C-100, seeded and attached to a woven PP-fibre fabric which serves as additional support for the plants and allows flexible lining for the Terratrel netting construction.

PROCEDURE: Cofferdam construction made from modules of a Terre Armée construction in connection with the Terratrel System.

The vegetated sound barrier was built up layer by layer with the help of Terratrel support grids which are held in position by galvanized reinforcing tape in transverse direction. The height of the grid is 76.3 m. A loop that holds two grids each at the top and bottom is firmly attached to the reinforcing tape.

On the inside of the grids the **GREENFIELDS®** Erosion Control Blankets as described above, were installed in such a way that the coir fibres are facing to the front. Then a space of 20 - 30 cm immediately behind the blankets was filled with topsoil and all the remaining space was then built up gradually and sealed.



TECHNICAL DATA:

- Length 530,00 m
- Max. width 6,42 m
- Min. width 1,00 m
- Max. height 5,57 m
- Incline 63,40 °
- Area 5.800,00 m²
- Mass of earth moved approx. 10.000,00 m³

The above solution ensures that the filling material will not be pushed through and at the same time allows fast growth of a suitable vegetation cover. This measure fulfills all necessary visual and strength requirements.



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